

Site 50. Yarrabing Wetlands Reserve, Wantirna

A park beside Dandenong Creek with a wetland, impressive Manna Gums and mown lawn. Melway ref. 63 F3.

Site Significance Level: *Regional*

- The regionally Endangered vegetation type, Floodplain Wetland Complex, is present, as well as scattered trees that are remnants of two other threatened vegetation types (Riparian Forest and Swampy Woodland);
- Locally rare flora and fauna have been recorded at the site;
- Being on Dandenong Creek, the site is on a major corridor for daily and seasonal movements of birds and insects (particularly waterbirds).

Aerial photograph and plan: See page 262, which covers this site and Site 51.

Boundaries

This site is the whole of the Yarrabing Wetlands Reserve, as outlined in red and labelled 'Yarrabing Wetlands' on the aerial photograph on p. 262. The total area is 1.79 ha.

Land use & tenure: Public park and conservation area, managed by Knox City Council.

Site description

This site lies on the floodplain of Dandenong Creek, except for a narrow strip on the southern edge which is at the foot of the north-facing slope leading down to the floodplain. The elevation is 79 m on the floodplain, rising to almost 81 m on the southern boundary.

Two meanders of the natural course of Dandenong Creek flowed through the reserve before the creek was replaced by a straight channel in the 1960s. A depression was left where the more easterly meander had been, and this has been expanded into a larger wetland by excavation in recent years. This wetland is outlined in white on the aerial photograph.

The expanded wetland has been extensively revegetated with indigenous wetland species, as a result of Council's efforts to enhance the habitat. The First Friends of Dandenong Creek and Melbourne Water have assisted these efforts. Council has also erected signs to help the public understand the ecology of this floodplain area.

The wetland is usually occupied by waterbirds. Unfortunately, weeds are also thriving in some of the wetland, exacerbated by the prolonged drought of recent years.

The main features of biological significance in the site are the wetland and the healthy, large specimens of Manna Gum (*Eucalyptus viminalis*) that remain in the reserve (clearly visible on the aerial photograph). The Manna Gums mark the area originally covered by Riparian Forest. The native understorey there has been reduced to little more than a small paperbark thicket and scattered ground flora that tolerate the frequent mowing which extends through most of the reserve.

On the slope at the reserve's southern margin, there are two Mealy Stringybarks (*Eucalyptus cephalocarpa*) and a Swamp Gum (*Eucalyptus ovata*), the only remnants of what would once have been Swampy Woodland. They are now within a revegetation plot that extends along most of the reserve's southern boundary.

Relationship to other land

Yarrabing Wetlands is like the nearby Winton Wetlands in most respects, and is separated from it only by the EastLink road. It represents a small ecological stepping-stone on a major corridor for daily and seasonal movements of birds and insects (particularly waterbirds). However, the native habitat along the stretch of creek corridor between Yarrabing Wetlands and the eastern side of Wantirna Rd is greatly fragmented, being mostly reduced to scattered trees and young revegetation.

Bioregion: Gippsland Plain

Habitat types

Riparian Forest (EVC 18, **Vulnerable** in the Gippsland Plain bioregion), reduced to scattered trees over predominantly introduced grasses, regularly mown. 10 indigenous plant species recorded.

Dominant canopy trees: *Eucalyptus viminalis* with one *E. radiata* and one unidentified hybrid eucalypt.

Dominant lower trees: *Acacia dealbata* and *Melaleuca ericifolia*.

Shrubs: *Bursaria spinosa*, very scant.

Vines and Ferns: None found.

Ground flora: The hardy species, *Microlaena stipoides* and *Lythrum hyssopifolia* were the only native ground flora found.

Swampy Woodland (EVC 937, **Endangered** in the Gippsland Plain bioregion), reduced to one *Eucalyptus ovata* and two *Eucalyptus cephalocarpa*.

Floodplain Wetland Complex (EVC 172, **regionally Endangered**): Estimated as 1,200 m², approximately equally divided between ecological condition ratings C and D when inspected in 2002, but in a state of change due to expansion of the wetland and extensive revegetation. 12 naturally occurring indigenous plant species have been recorded.

Trees, shrubs, vines and ferns: None other than some overhanging branches of trees and shrubs.

Aquatic and semi-aquatic flora: The dominant indigenous species are *Juncus* species and *Persicaria species*. *Alisma plantago-aquatica* is also abundant in places, as are the wetland weeds, *Juncus articulatus*, *Paspalum distichum* and *Ranunculus repens*.

Plant species

The following plant species were observed by the author on 14th June 2002. Additional species would no doubt be detectable in other seasons. The column headed 'Risk' indicates the indigenous species' risk of extinction in Knox as follows: 'C'=Critically Endangered; 'E'=Endangered; and 'V'=Vulnerable. In addition, *Persicaria praetermissa* is rare throughout the Melbourne region.

Risk	Indigenous Species	Risk	Indigenous Species
	<i>Acacia dealbata</i>	V	<i>Isolepis inundata</i>
	<i>Alisma plantago-aquatica</i>		<i>Juncus amabilis</i>
V	<i>Alternanthera denticulata</i>		<i>Juncus gregiflorus</i>
C	<i>Amyema pendula</i>		<i>Juncus pallidus</i>
	<i>Bursaria spinosa</i>		<i>Juncus sarophorus</i>
E	<i>Centella cordifolia</i>		<i>Lachnagrostis filiformis</i>
E	<i>Crassula helmsii</i>	V	<i>Lythrum hyssopifolia</i>
V	<i>Eucalyptus cephalocarpa</i>	E	<i>Melaleuca ericifolia</i>
V	<i>Eucalyptus ovata</i>		<i>Microlaena stipoides</i>
E	<i>Eucalyptus radiata</i>	C	<i>Muellerina eucalyptoides</i>
	<i>Eucalyptus hybrid</i>		<i>Persicaria decipiens</i>
E	<i>Eucalyptus viminalis</i> subsp. <i>viminalis</i>	E	<i>Persicaria praetermissa</i>
Introduced Species			
	<i>Agrostis capillaris</i>		<i>Holcus lanatus</i>
	<i>Crataegus monogyna</i>		<i>Juncus articulatus</i>
	<i>Gladiolus undulatus</i>		<i>Paspalum distichum</i>
			<i>Ranunculus repens</i>
			<i>Romulea rosea</i>
			<i>Ulex europaeus</i>

Fauna of special significance

Rare in Knox

Yellow-Billed Spoonbill.

Fauna habitat features

- Some of the mature eucalypts have hollows suitable for nesting or roosting by native birds, bats, possums or insects;
- The large Manna Gums (*Eucalyptus viminalis*) may provide nest sites for bird species that only breed in particularly tall trees;
- The juxtaposition of the tall trees (including dead ones) and the open pasture makes good habitat for smaller birds of prey such as Black-Shouldered Kites;
- The wetland was observed to provide habitat for frogs, insects and foraging (but not nesting) waterbirds.

Significance ratings

The following is an assessment of the site's significance against the Department of Sustainability & Environment's standard criteria (Amos 2004).

Ecological Integrity and Viability

Criterion 1.1.1 attributes **Local** significance to 'All parts of riparian systems with riparian vegetation present', which applies to this site.

Criterion 1.2.6 accords **Local** significance to sites that fit the description 'Important at local scale - Link between individual remnant habitat blocks or within subcatchment'. This applies to Yarrabing Wetlands' role for waterbirds such as the Yellow Spoonbill observed there.

Threatened Vegetation Types

Floodplain Wetland Complex is an endangered EVC. According to 'Victoria's Native Vegetation Management – A Framework for Action' (NRE 2002a), remnant patches of native vegetation belonging to an endangered EVC have a conservation significance rating of either High or Very High, depending on their ecological condition. In either case, any site containing a remnant patch of such vegetation is of State significance under criterion 3.2.3 of Amos (2004).

The wetland vegetation at Yarrabing Wetlands Reserve meets the Department of Sustainability & Environment's current definition of a remnant patch, but at the time Amos (2004) prepared the significance criteria, the unpublished convention was that native vegetation only qualified as a remnant patch if it occupied at least 2,500 m². Because this threshold is substantially larger than the area of native vegetation at Yarrabing Wetlands Reserve, the author has reduced the significance level of the site to **Regional**.

It is possible that the effects of drought will reduce the cover of indigenous wetlands plants to below the threshold required to qualify as a remnant patch, in which case the criterion 3.2.3 will no longer apply. However, the cover of indigenous plants may subsequently recover naturally when flooding recurs.

Locally Threatened Plant Species

Some of the locally threatened plant species listed above have viable populations, thereby meeting criterion 3.1.5 for a site of **Local** significance.

Threats

- Invasion by environmental weeds in the wetland. The most serious are Water Couch (*Paspalum distichum*), Jointed Rush (*Juncus articulatus*) and Creeping Buttercup (*Ranunculus repens*);
- Climate change and the effects of drought.

Management issues

- Weed control in the wetland is the highest ecological priority for management. Since Water Couch is very serious, it would be desirable to conduct a trial with a grass-specific herbicide that has been shown to have low aquatic toxicity, either at this site or another wetland in Knox (e.g. Lakewood Nature Reserve or Winton Wetlands). The WA Water and Rivers Commission has found Fusilade® to be suitable in such conditions (see their 'Water Notes' no. 22 of 2001, available from the www).

Administration matters

- This site is worthy of inclusion within the proposed Environmental Significance Overlay, ESO2, because of its threatened EVCs, the significant plant species, the habitat for native fauna and the riparian location;
- The Planning Scheme zoning is Urban Floodway Zone (UFZ);
- The site is included under the existing Vegetation Protection Overlay Schedule 1 of the Knox Planning Scheme, as part of Site 82 of the report by Water Ecoscience (1998).

Information sources used in this assessment

- Site description and mapping in 'Vegetation Survey of Linear Reserves – A Management Strategy for Riparian and Floodplain Vegetation' by Reid, Moss and Lorimer (1997), and the underlying field data. The field data included vegetation mapping, compilation of lists of indigenous and introduced plant species, incidental fauna observations, and checks for fauna habitat, ecological threats, management issues and populations of scarce or threatened plant species;
- A survey of the site by Dr Lorimer on 14/6/2002 to update the early survey, to fill gaps between the above data and the requirements of this study, and to advise Council on the content of interpretive signs that have since been erected there;
- Information about plantings obtained from Council and the website of the First Friends of Dandenong Creek;
- The 1998 'Scoresby Transport Corridor Environment Effects Statement', particularly Supplement Volume H: Flora and Fauna by Williams L.M., Yugovic J.V., McGuckin J., Humphrey P. and Larwill S. (1998);
- Aerial photography from February 2001, April 2003 and February 2007;
- Satellite imagery of the district;
- The Department of Sustainability & Environment's BioMaps of the area;
- Maps of geology and topography produced by agencies of the Victorian government.